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1916 DESCRIPTIVE CATALOGUE 1917

OF OUR

WANNAMAKER
PEDIGREED
BIG BOLL COTTON SEED
TWO-EAR SEED CORN



Breeding Patch of our Pedigreed Big Boll and Originator on October 15th. Three-fourths of cotton already picked, remaining one-fourth open: showing great adaptableness to boll weevil conditions.

SEED-BREEDING OUR SPECIALTY

MODEL SEED FARM

Saint Matthews, South Carolina

CALHOUN COUNTY

W. W. Wannamaker & Sons, *Proprietors*

The Model Seed Farm

Owned and Operated by W. W. Wannamaker & Sons
Farm Operated Since 1876. Seed Farm Organized 1907.

Location of Farm

MODEL SEED FARM is located two and one-half miles East of St. Matthews, S. C., and on the highest elevation between Charleston and Columbia,

S. C. The soil is a sandy loam, with a stiff red clay six inches to two feet below surface. It is the middle class of soils on which cotton, corn, and oats grow to perfection. The altitude adds to its other advantages in growing cotton seed for boll-weevil territory.



W. W. WANNAMAKER, Sr.
Founder of Farm, 1876
Present area 1,200 acres

Article Which Appeared in County Paper

All agricultural specialists will tell you that it is best to secure seed from growers who make it a specialty of not only intensive farming, but of seed breeding. The firm consists of father and two sons. Mr. W. W. Wannamaker, the head of the firm, has made farming his life work and has made a success of it.

His son, W. W. Wannamaker, Jr., after graduating at Clemson in the agricultural department in 1907,

devotes his entire time and study to the development of the best types and breeds of cotton and corn, and is constantly improving his already famous seeds.

Mr. T. M. Wannamaker has general supervision of the farm, hands, etc., and sees that instructions and farm operations are faithfully carried out to the letter. He is the trained nurse, as it were, of the firm, who keeps his hand on the financial pulse of the patient, and keeps things moving all the while.

Visit their place and see how they do business or send for one of their free catalogues and be convinced that it will pay you to get some improved seed every year or two.

It has been demonstrated that were all things equal, in corn, parties planting improved seed often would make from 3 to 15 bushels more than the common varieties of their own farms. If so, then it is easy to see where the improved seed will more than pay for itself the first year.



Some Good Advice About the Boll Weevil

The story nearest home is always the most interesting. Georgia is the latest field for the operation of the boll weevil. His full force and effect has not yet been felt. The Georgia legislature appropriated \$50,000 to be used in the fight against the pest and an active campaign is being waged in that State under the direction of E. Lee Worsham, State Entomologist, and his corps of assistants. The first specimen of the boll weevil in Georgia was taken at Thomasville, August 25th, 1915.

Georgia's System

After a fight of one year under weevil conditions in many counties of the State, Mr. Worsham gives the following advice:

"We do not advise any one to quit cotton. This is one crop for which a market is always assured. Reduce your acreage in cotton and plant the very best seed you can obtain. Put in varieties well adapted to your section, varieties that are pedigreed, seed that came from a single stalk and has been carefully selected for a period of years. It is just as important for you to have pedigreed cotton seed as it is to have pedigreed horses, cattle, hogs, chickens or dogs. In addition to this, grow all of the meat and all the food crops you need for your farms. Move your smoke-house and your corn crib from the Middle West to South Carolina.

"Whatever you do, don't become panic-stricken. Don't become discouraged and sell out. Don't move from one place to another trying to find a place where the boll weevil will never occur. Don't let your labor leave. If you will profit by the experience of the man who has suffered and recovered, there will be no excuse for demoralization and the decrease in land values that sometimes follow in the track of the boll weevil.

"Do not waste your time in experimenting. The government and the different infested States conducted and are still conducting a vast number of experiments under the direction of well trained experts. It consumes much time and costs real money for the right kind of experimental work.

"Do not waste time with agents selling boll weevil machines, traps or specific remedies of any kind. Beware of the agents also who have a cotton resistant to boll weevil. There is no such plant.

"Make up your mind to fight and call on the State and government forces for the aid they are in position to give you and you will win."

Will Cover This State

That the boll weevil will cover the entire State of South Carolina is the opinion expressed by Mr. Worsham, who has been studying the advance of the weevil for many years. He does not believe that any section of this State will be immune to the pest. The advance, he said, will be greater in the coast counties. He believes that the weevil will cross the Savannah River and enter Hampton and Barnwell Counties before the end of the present year. Mr. Worsham has promised to come to South Carolina and give the farmers the benefit of his

experience in the weevil fight in Georgia. He will keep the people of South Carolina advised from time to time as to the advance of the weevil.

Recommendations in "Modern Farming," a Farm Paper Published in New Orleans, La. By Professor Dodson, of Mississippi Experiment Station

Wannamaker-Cleveland Cotton—Please tell me what variety of cotton your experiments show to be one of the best for Mississippi conditions; or what kind would you plant on fresh post oak land that grew a crop of peas last year? Can I expect a crop of cotton?

Answer—One of the best varieties of cotton that we have tested at this station is Wannamaker-Cleveland. This is a short staple cotton, but is very prolific, early and makes a splendid turnout at the gin. The seed is produced in South Carolina and should be secured from the originator there.

Cotton for Boll Weevil Conditions.—If you have any experience with the various varieties of cotton which do best under boll weevil conditions, as an average, please inform me.

Answer—We have tested a large number of varieties of cotton under boll weevil conditions and we think Wannamaker-Cleveland is one of the best varieties that we have tested. This is a large boll, early variety, and is very prolific.

Information Service, Co-operative Extension Work
Miss. A. & M. College, U. S. Dept. of Agriculture
E. R. Lloyd, Director.

For Immediate Use

SCARCITY OF COTTON SEED FOR PLANTING PROMISED

Good, early, planting cotton seed promises to be scarce next Spring, especially in the large territory where the weevils got in their worst work this season. The mill price being high, and cotton scarce, not enough seed is being held in many localities to plant the next crop. *The Cleveland Big Boll* seed is especially going to be in demand. This variety has shown up well for several years and this year has given especially good results as a cotton to plant under boll weevil conditions. The State Experiment Station places it in the first rank as an early variety. On Mississippi prison farms it made larger yields than any other variety this season. It has shown up well among growers in nearly every part of the State.



R e c o m m e n d a t i o n

South Carolina Experiment Station,
Clemson College, S. C., September 18, 1911.

To Whom It May Concern:

It gives me pleasure to recommend Mr. W. W. Wannamaker, Jr., to the public as a careful, painstaking plant breeder. Mr. Wannamaker graduated at Clemson College in the Agricultural course, and while here he was a splendid student and took special interest in plant breeding. His variety of cotton, known as Wannamaker Pedigreed Big Boll, has given splendid results at our Experiment Station.

Very truly yours,
J. N. HARPER,
Director South Carolina Experiment Station.

Messrs. W. W. Wannamaker & Sons,
Saint Matthews, S. C.

Gentlemen: In regard to your Pedigreed selection of Cleveland Big Boll cotton, the results are conclusive evidence that you have exercised great care and good judgment in your selection. The single-stalk-selection is the only sure way of improving cotton and corn. The possibilities of the cotton plant are yet unknown, but by close, systematic, and persistent single-stalk-selection greater and greater yields can be reached. You are on the right track and if you will stick to it you will get something that will make you feel good and at the same time you will be a benefactor to the farmers of our dear old Southland.

JAMES M. KIMBROUGH,
Agriculturist and Assistant Director Georgia Experiment Station,
Experiment, Georgia, 1911.

Messrs. W. W. Wannamaker & Sons,
Saint Matthews, S. C.

Gentlemen: I congratulate you on your seed catalogue, and I feel that every man interested in Southern agriculture will join me in applauding you in selling your seed under the name of the standard variety rather than bestowing new and misleading names.

J. F. DUGGAR,
Director Alabama Experiment Station,
Auburn, Alabama, 1911.

Messrs. W. W. Wannamaker & Sons,
Saint Matthews, S. C.

Gentlemen: Your esteemed favor of recent date asking for the standing of your Wannamaker Pedigreed Big Boll cotton received, and I beg to say that it stands at the head of the list.

JAMES M. KIMBROUGH,
Georgia Experiment Station, Dec. 22, 1913.

WANNAMAKER'S PEDIGREED BIG BOLL COTTON SEED

Multiplied from a Single-Stalk-Selection of Cleveland Big Boll After Nine Years of Scientific Plant-to-Row Breeding. The Best "All-Round" Cotton in the South Today, Boll Weevil or no Boll Weevil.



Plant taken from Breeding Patch. Note broad open growth of plant, uniform distribution of bolls, and the perfect opening of bolls over the entire plant. With uniform early opening over all plants cotton can be picked earlier and stalks destroyed before frost to help get rid of boll weevil.

General Description of Plants

Each Pedigreed and true to type throughout; weed-growth unlike other strains of Cleveland Big Boll, medium to small, strong, erect, and as broad as high, three to four primary limbs from low down; fruit spurs numerous, long, and closely jointed; bolls equi-distant and evenly distributed over the entire plant, as thickly set as bolls of small-bolled cotton, large, sixty average size to pound, open perfectly, five-locked, easy to pick, free from boll-rot; lint of fine quality and one inch in length; seed of medium size, grey, fuzzy; foliage medium to light, dark green; very early and sets fruit closely and rapidly from bottom

to top-crop, which is never caught by frost, and can be picked early in boll-weevil territory in order to destroy stalks early.

Our Wannamaker Pedigreed Big Boll cotton seed of today is the result of nine years of painstaking and persistent plant-to-row breeding from the Cleveland variety originated in Mississippi some twelve or fifteen years ago by mass selection, or the planting together for seed purposes of a number of productive cotton plants. On account of this mass selection the seed that we first obtained from the originator in the year 1908 showed a great difference in productivity, earliness, per cent. of lint, and other characters of the cotton plant. However, this lack of uniformity was well, because it gave us room for improvement by separating the best individuals and planting on separate rows to prove their comparative worth under the same conditions. The great superiority of the plant-to-row method of breeding cotton over the old method of mass selection is fully explained in the article by Prof. J. F. Duggar, which we would be glad for you to read carefully. We are the only breeders that have bred this variety by the above method. It is by this method only that definite improvement can be shown in productivity, earliness, per cent. of lint, and trueness to type. Our cotton is the only strictly Pedigreed strain of this cotton in the South today. It is a distinct type; each plant a model, with less weed growth, more and earlier fruit, and three to six per cent. more lint than other strains of the Cleveland variety. It will make more lint cotton every year and in a shorter time than any other cotton in existence. It is the best cotton for boll weevil or no boll weevil. We would have been completely justified in calling it by our own name when first originated in 1908, but preferred retaining the old name for a while until we had further improved, and until farmers and experiment stations had learned by their own experience that it stood for definite improvements over and a distinct difference from the old variety. In now calling it by the name of its originator, after explanation of its origin by nine years of patient and persistent plant-to-row breeding, we place before the public a distinct pedigreed strain of cotton entirely different from any other variety in existence, truer to type than any other short staple cotton in the South today—a cotton so true to type that it would be impossible to imitate or call it by a new name without detection. We have been experimenting with and breeding other varieties and strains of cotton, but we have not yet discovered any cotton that would "all round" come up to our Wannamaker Pedigreed Big Boll cotton. In 1908 we made our first accurate variety test with several other very prominent varieties at that time, namely, Layton's Improved, Moss' Improved, Broadwell's Double-Jointed (selection from King Cotton) and Peterkin. Everything was weighed, not guessed at, which resulted in Cleveland Big Boll excelling the next highest, Layton's Improved, by \$10.15, and the lowest, Peterkin, by \$18.38, in money value per acre—quite a difference, but not at all unusual. Again, in 1909, a test with the next highest, Layton's, proved a still greater difference in favor of Cleveland, therefore, its adoption. In 1915, we made an impartial and accurate test of our cotton with five of the very best varieties in the South today. Two of the varieties we had been breeding for several years ourselves, namely, Toole and Rowden. Seed of the others were obtained direct from the originators. One-quarter of an acre was planted to each variety, repeated over land of uniform fertility four times in double rows of one-sixteenth of an acre each, and fertilized and cultivated exactly alike. This area repeated four

times should give as fair a test as one should want. Too often the area for a variety test is too small, the land too un-uniform or the plats are not repeated, for a test of any value at all. Or the fertilization, cultivation and stand are too different. Despite the unfavorable seasons for our cotton this year it stood at the head of the list with a yield of 1,552 pounds of seed cotton per acre on land of only average fertility and a fertilization of only five dollars per acre. It has been our policy to concentrate our breeding work on and sell only one strain of cotton. Others are bred and experimented with, but will not be substituted for our present cotton unless they repeatedly prove their superiority, which they have not up to this time done. We have not planted on our farm for the past three years, except in a breeding or experimental way, any other cotton than our Pedigreed Big Boll cotton. We are still improving and making this cotton more perfect and truer to type every year by plant-to-row breeding and individual selections from special breeding plats. The stock seed that we plant our own crop with every year is a definite improvement over the year before. Our seed are improved each year. We do not offer our own stock seed for sale, for others would have as good seed as our own for that year, provided they grew and handled them as we do ours. It is, therefore, important for our old customers and the new ones to secure some of our latest improved seed every year in order to get the advantage of our past experience and recent breeding. Read page twelve of catalogue. Do not be fooled by parties who say that they have improved cotton. Remember that it takes four or five years' time to multiply a thousand or more bushels of seed from one individual stalk and longer to prove whether this strain is really better than the variety selected from or other strains. In fact, it is very easy for one who meddles without any method with plants, or one inexperienced, to actually breed a variety worse instead of better than the original. To improve requires talent, study, experience and system.

The seed we offer you this year were selected in the Fall of 1911 from a single stalk. In the plant-to-row test of 1912 it proved its superiority over twenty-nine other carefully selected individuals. In 1913 a five-acre breeding plat was planted from two and one-half bushels of seed multiplied from this individual in the plant-to-row test of 1912. From this breeding plat of five acres about fifteen bolls were selected from each of 1,000 individual selections, making about five and one-half bushels of seed together. In 1914, these five and one-half bushels were planted on our thirteen-acre multiplying field, which made twenty-six bales of 506 pounds each. In the Fall of 1914, the same selection was done as in 1913 for our 1915 multiplying field. In 1916 our entire crop was planted in the seed from this field. These are the seed we offer you to plant in 1917. Each one of these seed will grow a model plant more closely and compactly fruited than any we have yet discovered. Each plant produces more cotton with less distance in the row. Plant early, get a perfect stand, space close, and you will make more and earlier cotton with this latest improved strain than any cotton you can plant, boll weevil or no boll weevil. It fruits as close as any small-bolled cotton, with bolls fifty per cent. heavier than small-bolled cotton. We have had cotton of this strain to grow only three to four feet high and make two 500-weight bales per acre. Any farmer knows that it is the fruit that makes cotton and not the large weed.

Some Records at the Experiment Stations:

A remarkable record—In competition with the cream of 20 to 69 short and long-staple varieties: Averaged first in money value per acre of lint and seed, and earliness, during the six years, 1910, 1911, 1912, 1913, 1914, 1915, tested at the Georgia Station, and lint cotton per acre the three years, 1912, 1913, 1914, tested at the four Mississippi Stations, and close to second at the North Carolina and Alabama Stations in 1913, with 37 to 41 per cent. of good lint.

Our cotton has also stood among the first at the South Carolina Experiment Stations. We do not think the comparative percentages of lint correct for the varieties and strains tested at this station.

Special Records: Georgia Station, 1913, 1,055 pounds lint net and money value per acre of \$155.12; Mississippi Station (Delta), 1913, 835 pounds lint net, and money value of \$129.02, with no fertilizer at all; Alabama Station, 1913, 710 pounds lint net, and money value of \$102.76.

Write to these Stations for full information, as we give results only in part. One test is never conclusive; it takes at least three consecutive tests to prove the value of a variety or strain. Our Cleveland has on an average beat considerably all other strains of this cotton, both in yield, per cent. of lint, and earliness. All seed for testing are sent direct from our farm, and being Pedigreed represent fully the stock we sell to our customers. This is by no means always the case with others who send seed for testing. Some send the very best for the test and sell inferior seed on the record of the fancy seed sent to Experiment Stations.

Some yields of our Cleveland on average land; careful records kept:

On 13 acres, 26 bales of 503 pounds each, with \$10.00 worth of fertilizers and two loads of stable manure per acre.

On 22 acres, 34 bales of 502 pounds each, with \$6.00 worth of fertilizers and two loads of stable manure per acre.

On 280 acres, 300 bales of 500 pounds each, with an average fertilization of \$6.00 per acre.

No doubt some of our customers have beat these yields. We would be glad to hear from them.

Variety Test of Cotton on Model Seed Farm for the Year 1916

VARIETY	Seed Cotton Per Acre, First Picking, August 23rd.		Seed Cotton Per Acre, first and Second Picking, September 12th		Seed Cotton Per Acre, Third Picking, October 25th		Total Seed Cotton Per Acre Gathered.	Seed Cotton Per Acre on Basis of Perfect Stand	Per Cent. of Lint, Georgia Experiment Station, 1915	Pounds of Lint Cotton Per Acre on Basis of Perfect Stand.	Number of Bolls Per Pound of Seed Cotton	Rank in Lint Cotton Per Acre on Basis of Perfect Stand.
	Seed	Cotton	Per	Acre	Seed	Cotton						
Wannamaker Big Boll, No. 1.....	670	1577	303	1880	2006	39	782	66	1			
Wannamaker Big Boll, No. 3.....	680	1469	303	1772	1873	39	730	66	2			
Wannamaker Big Boll, No. 2.....	714	1507	291	1798	1866	39	727	66	3			
Wannamaker's Storm Proof-Toole.....	396	1048	476	1524	1578	39.9	629	79	4			
Bradbury's Pullknot.....	320	1160	412	1572	1643	38	624	69	5			
Steinheimer's Cleveland Big Boll.....	616	1348	288	1636	1700	36.5	620	64	6			
Coker's Cook's Improved.....	544	1184	256	1440	1489	41	610	68	7			
Wannamaker's Improved-Toole.....	248	1012	452	1464	1489	39.9	594	89	8			
Scott's Cleveland Big Boll.....	538	1334	304	1638	1699	34	577	64	9			
Coker's Webber No. 49,.....	412	1108	308	1416	1456	31.5	458	70	10			
Wannamaker's Rowden Big Boll.....	380	864	216	1080	1124	38.8	436	53	11			
Miss. Station's Express, No. 28-122.....	774	1230	164	1394	1447	30	434	84	12			

In justice to the above test and varieties tested, we wish to state first that on the date of the third picking, October 25th, all bolls of all varieties in test were practically all open with the exception of the Toole strains. There will be about fifty pounds seed cotton more per acre for these strains, and only about ten to twenty-five for the others in the test. This will make very little material change in the results, as you see. Our next report will be complete, however.

The above test was made on good level clay sub-soil land of uniform fertility. Forty-eight rows were laid off four feet apart and 360 feet long, and two additional border rows of same length and width. The same quantity of fertilizers were put to each row with a rex force feed distributor, 400 pounds before planting and 300 pounds latter part of May. The seed were planted at the rate of one and one-half bushels per acre on April the eleventh, beginning with one variety until twelve rows were planted, one from each variety, and repeating this order three more times, making four series and one row in each series for each variety, or one-eighth acre to each variety. This way of planting gets rid of any difference in soil fertility. Cotton up to good stand eight to ten days after being planted and hoed to one stalk about one foot apart. Cultivation the same for each row. Incessant rains in July. Each row was picked and weighed separately for each of the three pickings by putting a numbered sack

at the end of each row. Weather was fair and cotton pretty and white at each of three pickings.

In the above table the percentage of lint was taken from the Georgia Experiment Station's variety test for 1915, except for Pullknot and Express; Express being taken from Mississippi Station's 1915 test and Pullknot being given one per cent. less than our cotton in 1915, the same comparison it made with it at Georgia Station in 1914, Pullknot and Express not having been tested at the Georgia Station in 1915. We believe the above percentages of lint pretty near comparatively correct, but we understand that only small quantities of cotton from probably the middle picking are taken by the Experiment Stations in determining the percentages of lint, which would not tend to give the most accurate results. It would be best to take all cotton gathered from each variety and gin for the most accurate percentages. A test without percentage of lint is very incomplete. We have saved all cotton gathered from 1916 test of our Wannamaker Big Boll No. 1, Wannamaker's Storm Proof-Toole, Bradbury's Pullknot, Steinheimer's Cleveland Big Boll, Coker's Cook's Improved, and Coker's Webber No. 49, around 200 pounds seed cotton for each, for ginning and determining the percentages of lint, which we will give in our complete report later.

Our Wannamaker Big Boll Nos. 1, 2, and 3, are our Latest Improved strains of this cotton. No. 3 was descended from a single-stalk-selection made in the Fall of 1911 and was the same seed as our stock seed or crop was planted in 1916. Nos. 1 and 2 were each descended from a single-stalk-selection made in the Fall of 1914. No. 3 are the seed we offer you for planting in 1917. Enough of Nos. 1 and 2 have not been multiplied for sale. These strains will be put in variety test again next year as one year's test is not conclusive. Yield on basis of perfect stand is fairest comparison. Note yields of these strains in comparison with the very best seed of the best strains of several of the highest yielding varieties in the cotton belt. Note the earliness of first and second pickings in comparison with several of the earliest varieties in the cotton belt; and note the percentage of lint and size of bolls. Size of bolls were determined by picking 100 bolls at random on adjoining rows of each variety and weighing. Express is one of the earliest cottons, but up to September 12th, 246 pounds more lint cotton was gathered from our Wannamaker Big Boll No. 1 than from Express, and 123 pounds more than from Steinheimer's Cleveland Big Boll. Express, like King and Simpkin's, may be slightly earlier in seed cotton at first picking, but the second picking certainly shows our cotton to be the most valuable cotton under boll weevil conditions on account of its much higher yielding qualities, to say nothing of the advantage in size of bolls and percentage of lint.

Prices of Seed From Our Crop of 1916

WANNAMAKER BIG BOLL NO. 3

One bushel, \$3.00; twenty-five bushel lots, \$2.75; fifty bushel lots or more, \$2.50 per bushel F. O. B. We prefer selling in small lots so as to have as many farmers plant them as possible. Demand always greater than supply. By ordering early you are sure to get the seed, and sure to get them in plenty of time for early planting to beat the boll weevil. See testimonials in back of catalogue.

We have no seed at all of Wannamaker's Storm Proof-Toole, Wannamaker's Improved-Toole, Wannamaker's-Rowden Big Boll, or any other variety or strain other than our latest Improved Wannamaker Big Boll for sale. We save other seed only that we may have the best pedigreed seed of these cottons for testing and comparison with our Big Boll cotton. They have proved far less valuable cottons either for boll weevil or no boll weevil.

Why Our Wannamaker Big Boll is Better Than Other Strains of the Cleveland

(1) Because it is PEDIGREED. Every plant that is grown this year, or years to come, can be traced back through record yielding plants to the single superior plant selected in 1908. There is no other Pedigreed strain of Cleveland being sold in the South today.

(2) On account of our seed being bred (by means of Stalk-to-Row Plat and Breeding Plots) from a Single-Stalk-Selection, our seed give much more uniform results than other strains—(see Experiment Station records). Every stalk grows, fruits, and lints alike; the field is uniform in growth and height, something beautiful to behold and to be proud of. Most plant breeders only go into the field and select a heterogeneous (mixed) lot of plants, which, in their judgment—often very erroneous—approach each other in merit and likeness. This, and failure to re-select from year to year, account for the great lack of uniformity in the varieties of today.

(3) Our breeding methods are thorough and systematic. They insure that our *Wannamaker Big Boll* is not only kept up to its present standard of productivity, but is improved and better and better from year to year. It is only by persistent and skillful selection and cultivation that a variety is kept up and improved. There is a constant tendency to revert, or go back, to a former or less excellent type.

(4) Our *Wannamaker Big Boll* is a new variety and entirely different and superior to the original Cleveland or other strains of the Cleveland. The plant, unlike other strains, does not grow too tall and weedy on rich lands, but, when given distance, grows as wide as tall, and fruits much closer. In fact, it has large bolls, with equal prolificness as our small-balled cottons. In other words, it is more productive than other strains.

(5) The per cent. of lint, its crowning point, is from three to six per cent. higher than other strains of the same cotton. This not only makes it more productive, but reduces the cost of picking and impoverishes the soil less.

(6) It is earlier than other strains, with greater productivity, and, therefore, better than any other cotton, either for boll weevil or no boll weevil.

(7) It is more free from disease, because we select for immunity. No plants are saved that are diseased, but discarded.

Special Advantages for Boll Weevil Territory

Besides the advantages of the greatest productivity, highest percentage of lint, large bolls, etc., of our *Wannamaker Big Boll*, it has special advantages over other strains for boll weevil territory. Its advantages as to earliness is equal to that of King, Simpkins, Express, Trice, and other similar varieties, with much greater productivity, and ease of picking on account of large bolls.

The great susceptibility of Cook's Improved, and its other synonyms, Brown No. 1 and especially Summerous Half and Half, to boll-rot or anthracnose, make it much more desirable to these. Its special advantages over other strains of Cleveland for boll weevil conditions are as follows: It is not only much earlier, but on account of being PEDIGREED Cotton, each plant matures early and opens over the entire plant at the same time. In other strains some plants mature early and some late, and the cotton from the late maturing ones is lost. This uniformity of maturity is of undoubted advantage in gathering up all the cotton early and plowing under the stalks.

Another special advantage of our Wannamaker Big Boll Cotton over the small-bolled cotton (which we have not stated) is not only its much greater ease of gathering on account of size of boll, but its more perfect gathering, on account of more perfect opening of bolls and lack of nappiness. Much cotton is left in fields by laborers when there is imperfect opening of bolls, small bolls, and nappiness.

The 1915 bulletin from the Georgia Experiment Station, Experiment, Ga., places our cotton, Wannamaker's Cleveland, at the head of the list in money value per acre out of forty-five varieties tested in 1915. The yield of seed cotton was 1,475 pounds, and the per cent. of lint was 39 per cent. Calculating the lint at 11c per pound, and the seed at 50c per bushel, gives a money value of \$78.27, \$2.67 in excess of rank of next strain of Cleveland in the test.

We have sent our cotton to this station for six consecutive years, beginning with the year 1910. During these six years it has beat in money value per acre every other variety of cotton and strain of the Cleveland Big Boll that has come in competition with it, that is, on the average. No other strain of Cleveland was sent every year during these six years but ours. We send ours each and every year.

Planting and Cultivating

A few words of caution: Big Boll seed are fuzzy and have a thicker hull than most other cotton seed. For this reason it takes the soil moisture longer to soak into them and cause them to germinate and come up; therefore they should be planted slightly deeper than other small bare seed, lest the soil dry out before they do absorb enough moisture, and, preferably, on solid beds thrown up previous to a rain. All practical farmers have found that it does not pay to spare seed if you want to get a good stand (very important) of cotton year in and year out. You cannot with safety afford to plant with a planter less than one bushel of the large seed of Big Boll cotton. Being large fuzzy seed, the planters also need to be opened wider for them to come out freely. Observe these precautions, for it is losing money and very unsatisfactory not to get a good stand of cotton. Furthermore, we, ourselves, will most probably be blamed for selling damaged seed—a very unbusinesslike policy. As to distance of planting, our strain of Cleveland not having a tendency to grow too weedy, requires no more distance on rich lands than the small-bolled cottons. Work and fertilize as you would other cotton.

COTTON BREEDING AND VARIETIES OF COTTON

By J. F. DUGGAR, Director Alabama Experiment Station

BREEDING

Mass selection, that is, the harvesting together for seed purposes of a number of productive cotton plants, may serve to preserve whatever excellence the original variety possesses, but it does not rapidly improve the variety and ordinarily it does not improve it at all. For rapid improvement there are required more elaborate methods and especially the practice of what has come to be known as the plant-to-row method.

In every department of life there are individuals standing far above most others in some one or more qualities, but if we take several hundred or thousand individuals and strike an average, the result is not very widely different from the average of the race. Now mass selection makes use of averages and hence improvement by this method cannot be very rapid, because the offspring of exceptionally good individuals is inseparably mixed with the offspring of the poorer class.

On the other hand, if the seed from each fine individual cotton plant be planted on a separate row, we may expect that the plants on this row will for the most part partake of the excellent qualities of the parent plant without being lowered by the average of the variety. However, this is not the only advantage of the separate planting of the seed from each plant. An even greater advantage consists in the fact that not every good plant is prepotent, that is, has the power of reproducing its own excellent kind. Instead we sometimes find a row of plants to be quite inferior in spite of the fact that every one of them was grown from seed produced by the same mother plant. Such a result indicates something about the mother plant that could not be told by mere inspection, and that is the want of prepotency in that parent. In most cases where the excellence of the parent plant is due to some special advantage of fertilizer, distance, etc., the excellence is not hereditary.

THE WORK CANNOT BE DONE IN ONE YEAR

A point that must be stressed in plant-to-row breeding as well as in mass selection is that selection must be made consistently each year. That is, if the special point in the first selection is earliness, the plants of the second generation must also be selected for earliness. Likewise, if a large size of bolls is the deciding factor in the first selection, large

bolls must again be selected in the second and third and succeeding generations. There must be constancy of aim. Fickleness in plant breeding is unpardonable, because decided change in aim from year to year undoes improvement already made.

In case it is not practicable to gin separately the seed cotton from single plants, the same end can be attained by hand-picking the lint from 5-boll samples from each of the plants producing the greatest amount of seed cotton. From the percentage of lint thus determined the total yield of lint of each plant can be calculated. There still remains the necessity of planting the seed from the selected individual plants with the lint still adhering. In this case about half a lock is planted in each hill and trodden on so as to make sure that the seed come in contact with the moist soil. The stand is apt to be poor.

As stated in the beginning, plant-to-row breeding of cotton is scarcely practicable except for those willing to devote much time to it. It is more difficult than plant-to-row breeding of corn.

VARIETIES

The cotton plant is very unstable, changing readily its form of growth, its length of staple, and other qualities according to the soil or climate in which it is cultivated. This is one of the many reasons why the number of varieties is so large, reaching, I estimate, more than 400 names. While large numbers of these names have been found in the tests of several hundred varieties at Auburn to be merely synonyms, yet there is undoubtedly a large number of distinctive varieties entitled to separate names.

It is unfortunate for those who wish to grow improved varieties of cotton that they are liable in buying seed under the newest names to find that they have only obtained seed of a standard variety which is already grown in their neighborhood. Farmers may here well take the advice that Pope gave relative to the use of words:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

As a rule, every farmer can find among the well-known varieties one that comes as near his ideal as do any of those advertised under new names and with extravagant claims. Indeed, the more extreme the claim, the greater

the distrust with which it should generally be regarded. This is not said in any desire to confine any one's selection to varieties already well known. On the other hand, I would recommend that before discarding any well-known variety, one or two new ones which the farmer has reason to believe are suitable to his conditions be tried, but at first only on a small scale. No farmer should change his variety simply to get the one that yielded highest at one experiment station for a single year. A single test is worth very little. But consider well any variety that stands high for three successive years.

DESIRABLE QUALITIES IN A VARIETY

Among the qualities that are universally desired in a variety of cotton are the following:

Productiveness, as shown by the large yield of lint per acre.

Staple not noticeably below the average in length.

Large size of boll, unless this be sacrificed for some conflicting qualities.

At least medium storm resistance.

Freedom from any special difficulty in picking.

Freedom from especial liability to disease.

In conclusion, we should not forget that there is no one variety best for all conditions of soil and climate; that it is not always possible to predict in advance which will prove

the most productive variety even for a given soil; that the purity and degree of selection practiced in recent generations by the grower of the seed is often more important than the particular name of the variety; and that no cotton can be expected to be uniform in its valuable qualities until it has been selected for a number of generations with the same quality or qualities in view. For the latter reason it would be well for buyers of cotton seed either to buy established varieties under their true and usual names, or else, before buying any new name, to insist upon knowing from what variety it is descended and whether the seller is willing to guarantee that the new name stands for certain definite improvements over the parent variety.

"The secret of selection is not in crossing different strains of plants or merely separating some one strain and breeding from it—this is easy. Its importance consists in the great effect produced by the accumulation in one direction or several directions, during successive generations, of differences absolutely inappreciable by an uneducated eye. Not one man in a thousand has accuracy of eye or judgment sufficient to become an eminent breeder (this is why there are so few doing this work). If gifted with these qualities, and he studies his subject for years, and devotes his lifetime to it with indomitable perseverance, he will succeed, and may make great improvements; if he wants any of these qualities, he will assuredly fail."—Darwin.

INTERESTING AND SOUND ADVICE FROM BULLETINS OF THE GEORGIA EXPERIMENT STATION

By J. M. KIMBROUGH, Agriculturist and Assistant Director

"Cotton is dominant. It is here to stay. We may talk about crop diversification and we may, as in duty bound we should, practice diversification of crops, but the fact remains that Cotton is King. It is first in thought and first in work. Why? Because it is the only product of the South that is clothed with the dignity of collateral."

"The one object, upon which cotton growers' thoughts and energy should center, is a system that will give a larger yield per acre at smaller cost of production. That object was had in view when the experiments herein described were planned. The intensive system is the demand of the hour. This is summed up in a general requirement—a smaller comparative acreage, a thorough preparation of the soil, the best seed, higher fertilization, labor-saving farm implements and the most approved cultural methods."

It has been the custom of this station from its earliest history to test the most extensively advertised varieties of corn and cotton. We carried on a test of twenty-six so-called varieties of cotton this year. Some may say "why does the station continue this line of work?" Because it has been the means of exposing fraud and saving large amounts of hard-earned cash to the farmers of the State. Again, it has been the means of distributing and popularizing some very fine and prolific varieties both of corn and cotton. Just a few years ago Marlboro Prolific Corn and Cleveland's Big Boll Cotton were not known, but now they are known all over the State, and are planted on a majority of the farms. Again, instead of the farmers demanding the variety test to be eliminated and something else substituted, the demand is, it should continue. It is the most popular experiment we have or are working out. It is a guide as to earliest and most prolificacy. The demand for an early, prolific variety of cotton is growing each year in view of the approaching dreaded boll weevil.

Another result of the station's variety test of cotton (the same is equally true of corn) is, that the number of farmers who are gradually developing high-class seed farms is steadily increasing.

This is a most assuring sign of the times. In developing and in conducting such a farm, high ideals must control. The seeds produced and put on the market must be just exactly what they are advertised to be; in

other words, the growers' word should be as good as his fidelity bond.

Again, I stress the importance of planting the very best variety of cotton obtainable, but be sure the variety you select has been thoroughly tested by disinterested parties or some one of the Southern Experiment Stations. There has been, and may be again, almost worthless varieties of cotton on the market under great claims that are not justified by an honest test. This station, in the past, has exposed some of these frauds, and it will be my pleasure to continue to do so as long as I am connected with it. There is a great difference in the yield of different varieties, also a difference in the same variety with different seasons and located in different parts of the cotton belt. Therefore, don't select a variety of cotton simply because it heads the list one year, but look back through a series of years and select that variety that has made the best average. By studying the tables, it will not be a difficult matter to select the variety that has made the best average at the station. I have known a variety of cotton that stood at the head of the list one year and the next year went to the bottom of the list tested. As I have stated, there is a great difference in the yield of different varieties of cotton. Sometimes, the difference is great enough to pay all the expenses of planting, fertilizing, cultivating and harvesting the crop. In the test for 1910, the difference in the yield of the best and poorest variety was more than enough to pay all the expenses of the crop from start to finish. The best variety made 2,256 pounds of seed cotton, while the poorest only made 1,489 pounds of seed cotton per acre. Estimating the seed cotton to be worth at that time .04 1-2 cents per pound, you will see the difference in favor of the best variety to be \$34.41 per acre over the poorest variety. The cultivation and fertilization was precisely the same.

Some may say the price of cotton during the season of 1910 was out of proportion to the average price; to such, I refer them to the yield of the best and poorest varieties tested in 1911, also the price of good lint. The best in the 1911 test made 676 pounds of lint, while the poorest only made 442 pounds of lint. Calculating the difference of the price obtained for the lint (9 3-4 cents), we have \$22.72 per acre in favor of the best variety, making \$1,136.00 on fifty acres more than his neighbor

that planted the poorest variety. It strikes me that sum, during these hard times, when everything is high-priced except cotton, is worth considering and saving. Understand, the treatment and expense were the same for both varieties. All were treated precisely the same from start to finish.

The test for the two years ought to convince any reasonable man that there is a great difference in favor of a high bred prolific variety over an unimproved variety. During both tests, the Cleveland strain heads the list in the production of both seed cotton and lint.

There was considerable difference in the yield of the varieties under the same name. Cleveland's Big Boll grown from station seed made 381 pounds of seed cotton per acre more than Steinheimer's Cleveland. Estimating the cotton to be worth 5 1-2 cents per pound, there is a difference of twenty dollars and ninety-five cents (\$20.95) in favor of Cleveland from our seed over the yield of Steinheimer's Cleveland—enough to pay for all the fertilizer and the cultivation.

LONG STAPLE COTTON

At this time and in this immediate section there is not enough long staple grown to create a market. My experience has been the upland long staple is not prolific enough to make it a paying variety. Planted side by side under precisely the same treatment the short staple prolific variety has always been the most profitable. It is true where there is a market for long staple it generally brings a much higher price than short staple. My advice to the farmers near a good long staple market is to adopt improved cultural methods and grow long staple varieties. But in the absence of a

market where a premium is offered for long staple, I advise sticking to the best varieties of short staple, and by improved methods of culture and by concentrating the fertilizers and best energies on well prepared land increase the yield to a paying basis. There is no profit to the planter that only grows one-third of a bale to the acre at 15 cents per pound lint. If the one-third of a bale per acre farmer would reduce his acreage and concentrate his fertilizers and best energies in thoroughly repairing what he proposes to cultivate and make one bale per acre, he would make a small profit, otherwise he is farming or growing cotton at a loss.

As to the valuable varieties of corn, cotton and oats that have proved universally productive wherever given a fair chance, there are the Marlboro Prolific Corn, Appler Oats, Cleveland's Big Boll Cotton, besides others we could mention. For several years our experiments have shown these to be uniformly high yielders and the published results have attracted considerable attention and brought a large number of inquiries to the station for seed.

A just reputation secured by a variety of cotton may no more be sustained without great and persistent care than may a breed of race horses or dairy cows be kept up to its original excellence, without careful breeding, selection, and feeding.

"Eternal vigilance," it was said, "is the price of liberty;" so, also, it may be said that persistent and skillful selection and cultivation is the price of continued excellence in a variety of cotton. There is a constant tendency to revert, or go back, to a former and less excellent type.

PLANT ONLY THE BEST SEEDS

BY COL. R. J. REDDING,

Director Georgia Experiment Station, 1896 to 1907

It is not easy to overestimate the importance of planting seeds of only the best types of the various plants grown in the field and in the garden. Of course, field crops take precedence over ordinary domestic garden crops, because perhaps 99 per cent. of the farmer's capital energies and outlays relate to the former. There was a time, and it is within the memory of this editor, when farmers generally gave scant attention to selecting corn, cotton, potatoes, peas, etc., being easily satisfied with seed that would "come up" and grow. Not one in ten made the slightest effort to improve by selection any farm or garden seeds. When corn planting time arrived the seed corn was selected from the bulk in the crib and attention was confined solely to the size and general appearance of the ears, without knowing whether a given ear grew on a two-ear stalk or was located high up or low down, or any other point. And so with cotton. Some farmers were thoughtful enough to reject the seed from the first picking and the last picking. The seed from the bulk of the crop were piled together and the crop was planted from the pile.

It was a rare occurrence for a farmer to make any effort at improvement.

A CHANGE FOR THE BETTER

During the last thirty or forty years a great change has come over us in the matter of all varieties of all field crops. The larger yields of corn and cotton—to say nothing of other crops—of late years are very largely, if not chiefly, due to improved and more productive varieties.

The great number of advertisements of farm seeds for sale attest this remarkable change. But it remains a fact, however, that very many farmers have not yet been aroused on this subject, and still continue to plant, year after year, the same nondescript varieties that were handed down from their fathers and grandfathers; or, if they have made any progress at all, have been content to buy a few bushels of some advertised variety, "to get a start," and have continued without any special effort to improve on their first purchase, and have not even kept up any excellence by proper care in annual selections. Ten years ago he got some seeds of somebody's "Beat the World," or "Excelsior," or "Smith's Nonpareil," possibly from a neighbor who had been carelessly growing it for several years,

and he still fancies that it is just as good as when he got it, when, in fact, it has completely run out, or gone back, and is no longer worthy to be classed as productive or excellent in any respect.

OFFICIAL TESTS OF VARIETIES OF CORN

At the Georgia Experiment Station, of which I was director for seventeen years (1890 to 1907) very careful test of current, advertised varieties of corn were made every year, especially with reference to yield of shelled corn per acre. In Bulletin No. 65 (1904), made the careful comparison, covering a period of ten consecutive years (1895-1904) of the yields per acre of the best varieties of corn and the poorest varieties. The number of varieties annually tested during that ten-year period averaged about fifteen.

It should be borne in mind that the seed of these tested varieties, without exception, were supplied by the growers, or promoters, as possessing superior merit and it was fair to assume that none were of low grade. The matter may not be made plainer than by giving the tabulated results as they appeared in Bulletin No. 65, as follows:

TABLE NO. IV
A Comparison Between the Best and the Poorest Varieties of Corn for Ten Years

Years.	Best		Poorest		Average of all Varieties, Bushel.	Diff. between Best and Poorest, Bushel.	Value of Diff. at 80 cents per Bushel.
	Bushels Shelled Corn Per Acre.	Bushels Shelled Corn Per Acre.	Bushels Shelled Corn Per Acre.	Average of all Varieties, Bushel.			
1	2	3	4	5	6		
1895	45.55	38.41	40.60	7.14	\$5.71		
1896	28.20	19.46	24.59	8.74	6.99		
1897	38.98	24.60	31.81	14.33	11.16		
1898	33.04	26.88	29.92	6.16	4.93		
1899	22.33	10.40	17.70	119.3	9.54		
1900	51.31	34.74	42.73	16.57	13.26		
1901	27.38	14.32	19.32	13.06	10.45		
1902 *....	12.95	8.00	8.82	9.35	7.48		
1903	34.58	22.80	28.20	11.70	9.36		
1904	26.00	16.24	20.88	9.26	7.41		
Avrgs. .	32.02	21.15	26.40	10.87	8.70		

*Very poor soil and a very dry season.

Very little, if any, explanation of the table is needed. It will be seen at once that the average difference between the yields of the best and poorest varieties of each of the ten years was 10.87 bushels of shelled corn per acre. The value of this difference, at 80c per bushel, amounts to \$8.71, or at present retail prices, \$10.87. It is probable that this amount would pay all expenses of cultivation of one acre, including fertilizers.

OFFICIAL TESTS OF VARIETIES OF COTTON

Covering the same period of ten years the same bulletin gives the result of a comparison of the yields of the best and poorest varieties of cotton and the value of the average of the differences of each of the ten years. The following is the tabular statement of the results:

Years.	No. of Varieties	Yield of Lint and Seeds Per Acre.		Values at 10c. for Lint, 80c. Seed.				
				Best Varieties	Poorest Varieties	Difference		
		Lint.	Seed.					
1	2	3	4	5	6	7	8	9
1895 ..	18	511	991	300	688	\$59.03	\$35.50	\$23.53
1896 ..	20	705	1227	438	1162	80.31	53.09	27.22
1897 ..	21	516	957	365	716	59.25	42.23	17.02
1898 ..	30	752	1383	512	1128	89.26	60.22	29.04
1899 ..	25	423	852	346	747	49.11	40.57	8.54
1900 ..	21	624	1040	374	919	70.72	44.75	25.97
1901 ..	26	539	843	392	844	60.64	45.95	14.69
1902 ..	26	383	626	298	624	43.81	34.79	8.52
1903 ..	21	599	899	382	794	67.09	44.55	22.54
1904 ..	24	679	923	456	738	75.28	51.50	23.78
Avgs.	23	576	974	386	836	\$65.40	\$45.82	\$20.08

Now, mind you, this was a test between improved varieties alone, seeds being supplied in every case by growers or promoters. The "poorest" were probably no better than ordinary, every-day seed—to the shame of the grower, or seller, and to the warning of the buyer.

Note that the value of the average difference between the best and poorest of each year, on the basis of only 10 cents for lint and \$16 per ton for seed, was \$20.08. Suppose you put lint at 13 cents and seed at \$30 per ton, the current prices, the difference of 190 pounds of lint and 138 pounds of seed would amount to \$26.77.

The report of the test in the bulletin goes on to make the following illustrative application of the test, on the basis of 10 cents for cotton and 80 cents for seed:

Suppose that two farmers of equal skill and industry should each plant and cultivate each year for ten years 100 acres of land of precisely the same highly productive quality, in exactly the same manner and with the same amounts and kinds of fertilizers, have the same weather conditions, the only difference being that the one farmer planted every year seeds of the best variety, and the other planted only seeds of the poorest variety tested.

A very little calculation will show that the farmer planting only of the best variety will have annually secured \$2,000 worth more cotton from his 100 acres than his neighbor who planted only ordinary cotton; or in the ten years the first will have secured \$20,000 more—enough to buy out his less fortunate neighbor's 100 acres at \$50 per acre, and have \$15,000 left. Doesn't that surprise you, reader?

OTHER FIELD AND GARDEN SEEDS

The same comparisons might have been made with several other field and garden crops with correspondingly striking results, particularly with oats, sweet potatoes and Irish potatoes. Even more striking results might follow a long course of testing many of the varieties of garden seeds.

WHAT SHOULD EVERY FARMER DO.

A farmer who has paid no attention to varieties, or has planted seeds of the same variety year after year without exercising especial care in selecting every year seeds the best yielders—whether of corn, cotton or other crops from seed—may be sure that his seeds need renewing and should at once buy at least enough seed of the most productive and otherwise desirable varieties to enable him to plant the entire area to be devoted to a particular crop by the next succeeding year. I would not advise any farmer to try to improve a scrub variety of corn, cotton or any other crop by his own efforts.

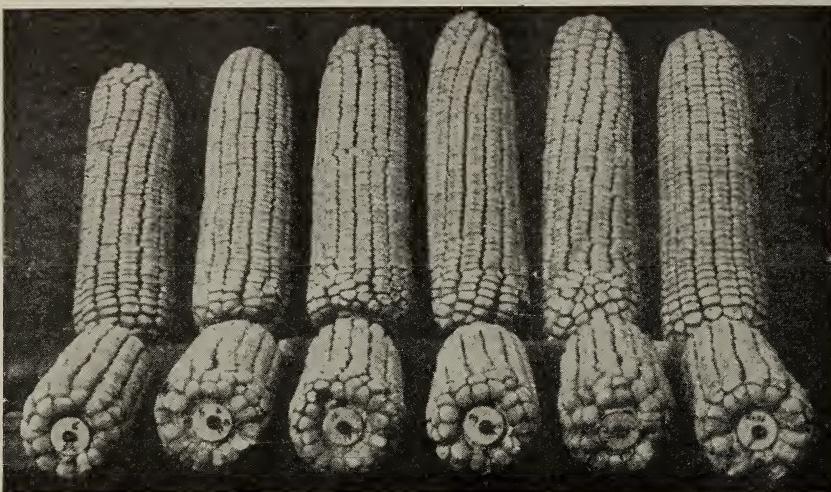
The proper plan is to get at least a few ears or a few bushels of the very best strain he can possibly find and discard the scrub stock at once, or so far as not to save a single seed for planting after another year. He may then commence a plan of selecting a few of the best stalks for the area grown from the purchased seed, select the best bolls from these stalks and thus secure seed enough to plant an acre, or an area sufficient to produce seed for his entire crop the following year.

I repeat it—don't try to improve a scrub variety of anything, but begin with the best you can find.

R. J. REDDING.

Griffin, Ga.

WANNAMAKER'S PEDIGREED TWO-EAR SEED CORN



Six pairs of ears of our Wannamaker Two-Ear crossed in breeding patch. The ears above and below each other are from the same stalk.

General Description of Plants

Stalks of medium height and size, stout, with short joints; foliage medium; ears of medium height from ground, two good ones of equal size per stalk; grain white to cream, hard and of best quality; cobs white.

We began the breeding of this Corn in 1909 from Marlboro Prolific, one of the best varieties of Prolific Corns in the South. Like most every Prolific corn at that time, and even now, it was more or less mixed and very untrue to type. In fact, any number of strains or varieties could have been selected from it. However, this was well because it gave us range from which to select what we thought to be the best; and later, in the field and ear-to-row tests, it gave nature many different kinds from which the scales and our judgment chose the best yielders of best quality and other characters we were looking for. This corn we have bred for the past seven years by ear-to-row tests and careful field selections for the greatest number of bushels per acre of shelled corn of best quality, and for two large heavy ears of equal size to each stalk, which makes the corn much easier to harvest, to handle, to shell, and to feed. Tests carried on for ten or more years at all of the Southern Experiment Stations prove conclusively that Prolific corns will yield on an average of from 15 to 25 per cent. more corn in the South than the very best of the large one-eared sorts. But the great objection to the Prolific types is that they are too prolific, produce a pile of nubbins that measure more in the wagon body than when shelled, and that are too expensive to harvest, to handle, to shuck, to shell, and to feed; all of which in the long run, we must admit, really amount to a great deal. The fact of the matter is that any corn, however prolific, planted in a sensible manner as practical farmers plant their

whole crops—I am not referring to gambling with prize acres—will not produce on an average more than two ears per stalk. Two eight-ounce ears per stalk, planted in six-foot rows and two feet apart in row will produce fifty-two and one-half bushels per acre; planted one and one-half feet apart in row will produce seventy bushels per acre; and planted one foot apart in row will produce one-hundred and five bushels per acre. If there is a third, fourth, or even fifth or sixth ear as some claim, we find them to be mostly cob and shuck borne at the very dear expense of the size, quality, and heaviness of the other two ears above, which are the first to come out. This is especially true during drouth, which our corn here in the South is subject to about two out of three years. Then why breed corn for so many nubbins? Why not have two large ears per stalk that will shell, year in and year out, more grain of better quality per stalk than all the nubbins, cobs and shucks of the too-prolific corns; that will be more economical in harvesting and handling; more satisfactory in every respect?

Our *Wannamaker Two-Ear Seed Corn* for 1917 is a distinct type of corn from any other corn in existence, although developed originally from the Marlboro Prolific. We are the originators and only breeders of this corn. It is much higher yielding corn of better quality, larger ears, larger grains and more uniform type than any we have yet offered. The quality or hardness of the grains, the close fitting shucks over and downward hanging of tips of ears make this corn comparatively weevil-proof and rot-proof. We would not say as some do, that it is "perfection." We have no such satisfied expression for any of our seed, but rather seek to improve each and every year. This corn is the result of our ear-to-row test of 1913 and field selection and selection for uniformity of type and quality and size of grains since 1913.



1913 100-Ear-to-Row Test, 100 Rows, $2\frac{1}{2}$ Acres, Harvesting and Weighing

Record of Ear-to-Row Test of 1913

Ear Number	Bushels Per Acre	Ear No.	Bushels Per Acre	Ear No.	Bushels Per Acre	Ear No.	Bushels Per Acre
1	48.57	26	52.00	51	47.43	76	42.84
2	49.14	27	46.85	52	52.00	77	53.15
3	46.85	28	45.71	53	48.00	78	50.29
4	42.85	29	52.58	54	46.85	79	48.57
5	41.71	30	42.84	55	44.57	80	46.85
6	44.57	31	48.00	56	49.71	81	48.57
7	45.71	32	48.00	57	46.28	82	54.29
8	48.00	33	49.14	58	48.57	83	44.57
9	50.86	34	46.85	59	45.71	84	46.28
10	47.43	35	41.14	60	52.00	85	46.85
11	50.86	36	48.00	61	49.71	86	48.57
12	52.88	37	46.85	62	45.71	87	45.71
13	44.57	38	41.71	63	41.14	88	50.86
14	47.43	39	41.14	64	49.14	89	48.57
15	41.14	40	42.27	65	52.00	90	47.43
16	46.85	41	46.28	66	45.71	91	54.86*
17	49.71	42	51.43	67	55.43	92	44.57
18	50.86	43	52.00*	68	42.27	93	42.28
19	43.99	44	53.72*	69	49.71	94	51.43
20	42.27	45	46.85	70	50.29	95	45.71
21	36.55	46	48.00	71	53.72	96	31.41
22	49.71	47	53.72	72	46.85	97	56.58*
23	48.00	48	50.29	73	49.14	98	49.71
24	35.41	49	54.86	74	47.43	99	42.28
25	53.72	50	53.15	75	41.14	100	53.15

After a most painstaking and thorough consideration of the above 100 rows of corn, both in the field and in the house, ears No. 43, 44, 91, and 97, were chosen as the best "all round" ears for further increase. In 1914, one and one-half acres were planted from the very best selected ears of these best four rows. From this breeding patch that Fall only stalks in an even stand of stalks were selected that bore two ears of equal size and quality per stalk, weighing not less than twelve ounces each, or twenty-four ounces per stalk. These ears received further careful inside consideration as to type of ears, quality, size and color of grains, etc., and the very best twenty ears were planted in our 1915 breeding patch. From this breeding patch ears were selected for our seed corn field of 1916, from which we offer seed for sale only on the ear for planting in 1917. The record of this corn as represented by the four ears in the 100 ear-to-row test of 1913 was as follows: In this ear-to-row test of 1913, sixty-seven of our own best ears were used and thirty-three of other strains of Marlboro obtained from foreign sources. The object of the foreign bred ears was to see if we could not find something better than we already had. These were planted every third to fourth row in test, or as multiples of three. The results in substance of this test were as follows:

Average yield of our own 67 select ears, dry 48.40 bu. per acre
 Average yield of 33 foreign select ears, dry 45.71 bu. per acre

A difference in favor of our own corn of 2.69 bu. per acre
 Our highest yielding ear made 56.58 bushels per acre
 Foreign highest yielding ear made only 52.88 bushels per acre

A difference in favor of ours of 3.70 bushels per acre

These results do not take in consideration the better quality and larger ears of our own corn, which was very noticeable.

Average yield of four rows, 43, 44, 91 and 97 54.29 bu. per acre
 Average yield of one hundred select ears 47.05 bu. per acre

A difference in favor of four chosen rows of 7.24 bu. per acre,
 (not including the improvement of this corn by further
 selection in 1913 and 1914) or an increase in yield of 13 per cent.
 Per cent. of grain of four chosen rows was 87.15 per cent.
 Average number of ears per 100 stalks was 194 ears.
 Average weight of both small and large ears was 9 ounces.
 Number of stalks to bushel of corn was 75 stalks.
 Average number of ears to bushel of shelled corn was 125 ears.
 Average weight per bushel of shelled corn was 63 pounds.
 Average length of larger ears was 8 to 10 inches.

Uniformity of type of ears and quality, size and color of grains
 was the best.

The height of stalks and ears on stalks was medium.

This corn was planted in four-foot rows and three feet apart in row. A perfect stand was secured. The results of the above record show that this corn will make seven bushels per acre more than the average yield of one hundred carefully chosen and bred ears, or an increase of 13 per cent. of grain per acre. This does not take into consideration the further selection of this corn in 1913, 1914 and 1915, nor its quality, uniformity of type, size of ears, etc. When one buys seed corn he not only wants high yielding corn, but also large ears of best quality, and pure bred corn, not a mixture as is found in most of our Southern corns, especially the prolific types. Beside common unselected corn the above difference would be much greater, as has been often proven by the Experiment Stations tests, covering a number of years, to be from twenty to twenty-five per cent. Don't you think this worth saving?

P r i c e s f o r 1 9 1 7

C O R N S O L D O N L Y O N E A R

Per bushel, or more, on ear, \$5.00; per half-bushel, \$3.00; and per peck, \$2.00, F. O. B., shipped in strong, coarse sacks to avoid shelling and waste, preferably by express. Ears carefully chosen; sound, heavy, large ones.

When corn is shipped on ear you see exactly the quality you are getting, and you get better quality. Besides, you can further select the ears to suit yourself, and shell carefully by hand to avoid breaking the kernels. As so many one-grain planters, like the Deer, are used now, it is very important to select seed and shell seed corn more carefully, therefore our reason for selling only on ear. It is more trouble and more expensive to sell it this way, but you get more value in better seed corn.

R e m a r k a b l e R e c o r d o f O u r W a n n a m a k e r T w o - E a r i n V a r i e t y T e s t s f o r 1 9 1 5

C. H. Kyle, of the United States Department of Agriculture, Bureau of Corn Investigations, came to our farm in the Fall of 1914 and personally selected from our field corn for his variety tests and experiments for the year 1915. He

also likewise secured corn from nine other prominent breeders of corn in the South. The test of these best ten varieties was made in Georgia in 1915. Mr. Kyle writes us that our corn only lacked a fraction of a bushel of making the highest yield, and that it was of much better quality and trueness to type than the other varieties tested. He ordered a bushel of our corn in the ear for his further tests in 1916.

In the variety test of sixteen varieties at the Pee Dee Experiment Station of South Carolina in 1915, our corn stood second; not very far from first, which could be well accounted for within the limits of experimental error.

In a test of sixteen varieties at the Georgia Station in 1915, the yield was only one-half bushel per acre less than the highest yielding variety.

In a further test of thirty-six varieties of corn made in South Carolina our corn yielded forty-two bushels per acre, only one bushel less than the highest.

In each of the above tests our *Wannamaker Two-Ear* stood practically at the top in yield of bushels per acre. The small difference between it and the other highest yielder in each case was so small as to be accounted for in experimental error. When our corn makes such a stand among the very best varieties in the South in four different tests at as many different places proves conclusively its high yielding qualities as well as its wide range of adaptability. The above tests, except the first, only take into consideration the yield of the varieties. In buying seed the quality and purity is also of great importance. Also the size of the ears, as we have already explained above.

How to Plant Our Wannamaker Two-Ear Corn for Best Results Year In and Year Out

Prolific corns should be given about 25 per cent. more distance than the one-eared sorts for the best results, year in and year out; both in yield, in quality, and in size of ears. Prize acres and brag patches have been planted too thick for safe results as all good farmers who seek good average paying yields on their whole crops know. About best distances are: Five, or better, six-foot rows—for best crop of peas and easy cultivation—and two feet apart in drill for yields of 20 to 40 bushels; 18 inches for yields of 40 to 60 bushels; and one foot for yields of 60 to 100 bushels per acre, land and fertilization accordingly.

As to chief sources of failure in making a good corn crop, we quote the following from David Dickson, which cannot be improved on:—

“1st. Not keeping a sufficient quantity of vegetable mold in the land.

“2nd. Ploughing too shallow in preparing for the crop.

“3rd. Planting too thick.

“4th. Cultivating too deep.”

To these we will add at this date:

5th. Williamson Plan of Preparation, and fertilization.

“Theories as to what is a good ear of corn are of little value, as some ears have a productive power of many bushels more per acre than other ears that look as good or better. No one living today, who has made a careful study of

corn, can say what type of ear or of kernel is the one that will produce the greater number of bushels per acre. The farmer for the past 300 years has arbitrarily chosen a type of ears that suited his idea as a good ear, not giving nature a chance to select the ears that will yield the greater number of bushels per acre. Is it not time that we let nature co-operate with us in selecting the best corn that will yield the most bushels per acre, remembering that the best ear of corn is the one that will produce the most bushels per acre of shelled corn of best quality; and not the ear that will shell the greatest per cent., nor the ear that will win in the show ring? The best looking ears are usually not the best for seed. It is only the Ear-To-Row test that will show us the highest yielding ears by weighing nature's producing power of each ear planted on separate row."

We feel that the public will appreciate the class of work we are doing in breeding corn and cotton for greatest yield of best quality per acre, and the carefulness, fitness, time and energy required for the proper carrying out of such work.

United States Department of Agriculture, Bulletin No. 229, says: "The swindling practice of advertising and selling as well bred seed, a corn that has received no careful breeding is more common than the breeding of productive strains, and has caused many who have been imposed upon to discredit the merits of truly good seed corn. It is unwise to buy seed from parties whose method of corn breeding is unknown and whose truthfulness is not assured, and it is equally unwise to purchase in large quantities seed of a strain of corn that is not known to be adapted to the section in which it is to be planted."

Henry Ward Beecher's Farm Creed

We believe that soil likes to eat as well as its owner, and ought, therefore, to be liberally feed.

We believe in large crops which leave the land better than they found it—making the farmer and the farm both glad at once.

We believe in going to the bottom of things, and, therefore, in deep plowing and enough of it. All the better with a subsoil plow.

We believe that every farm should own a good farmer.

We believe that the best fertilizer for any soil is a spirit of industry, enterprise, and intelligence. Without this, lime and gypsum, bones and green manure, marl and guano, will be of little use.

We believe in good fences, good barns, good farm houses, good stock, good orchards, and children enough to gather the fruit.

We believe in a clean kitchen, a neat wife in it, a spinning wheel, a clean cupboard, a clean dairy, and a clean conscience.

We firmly disbelieve in farmers that will not improve; in farms that grow poorer every year; in starving cattle; in farmers' boys turning into clerks and merchants; in farmers' daughters unwilling to work, and in all farmers ashamed of their vocation or who drink whiskey until honest people are ashamed of them.—Henry Ward Beecher.

The Ten Commandments of Agriculture*By the Late Dr. Seaman A. Knapp.*

- (1) Prepare a deep and thoroughly pulverized seed-bed, well-drained; break in the Fall to a depth of 8, 10, or 12 inches, according to the soil, with implements that will not bring too much of the subsoil to the surface. The foregoing depths should be reached gradually.
- (2) Use seed of the best variety, intelligently selected and carefully stored.
- (3) In cultivated crops give the rows and the plants in the rows a space suited to the plant, the soil and the climate.
- (4) Use intensive tillage during the growing period of the crops.
- (5) Secure a high content of humus in the soil by the use of legumes, barnyard manure, farm refuse, and commercial fertilizers.
- (6) Carry out a systematic crop rotation with a winter cover crop.
- (7) Accomplish more work in a day by using more horsepower and better implements.
- (8) Increase the farm stock to the extent of utilizing all the waste products and idle lands of the farm.
- (9) Produce all the food required for the men and animals on the farm.
- (10) Keep an account of each farm product, in order to know from which the gain or loss arises.

Some Voluntary Testimonials

Model Seed Farm,
St. Matthews, S. C.

Gentlemen:-

We are glad to know that *The Southern Cultivator* gave you such good results last year. We believe that there will be a bigger demand for Cleveland Cotton seed this year than any other and it is the opinion of the writer that you have about the best seed of any of the growers offering them for sale.

Yours truly,

THE CULTIVATOR PUBLISHING CO.
T. P. Hunnicutt, Mgr.

Atlanta, Ga., Jan. 25, 1916.

Mr. W. L. Watkins,
Aberdeen, Miss.

Dear Sir:-

Your letter of March 13th received and carefully noted. The best, most prolific, and early maturing big boll variety of cotton is Cleve-

land's. You can get the very seed you want from the Model Seed Farm. The Model Seed Farm is an absolutely reliable concern and they have bred this seed up to the very highest standard.

Yours truly,
THE CULTIVATOR PUBLISHING CO.
Manager.

March 16, 1915.

The Model Seed Farm,
St. Matthews, S. C.

Gentlemen:-

I would indeed be ungrateful if I should fail this year to write you of my deep appreciation of what you have done for me.

You will remember last Spring a year ago I bought one hundred and fifty bushels of your "Wannamaker's Pedigreed Cleveland Big Boll Cotton Seed" from you. Last year I was so well pleased with your seed that I cut out

everything else and this year I planted my entire cotton crop nearly one thousand acres to your seed, and my success has been, I will say, phenomenal. I sincerely believe that I have the best average crop in this county and I am sure everybody here in a position to know will bear me out in my statement.

My manager and myself attribute this more than anything else to your seed.

The storm hit us on July 3rd and it rained for twenty-one days, then the boll weevil began his ravages and hasn't let up yet. But our crop had put on a half crop when the rain began, thanks to your seed.

The turn-out in lint is highly satisfactory, running from thirty-six to thirty-eight per cent.

The one hundred and fifty dollars, I think it was I sent you, was the best money I ever spent.

I will be only too glad at any time to recommend your seed to any one.

When I first looked at your seed the purity and uniformity impressed me. And that intelligence far above the average was used in breeding these seed I am sure. I will be pleased to hear from you and to learn what you will have to offer for another year.

With best wishes, I am,

Yours sincerely,

W. L. W.

Aberdeen, Miss., Sept. 15, 1916.

Messrs. W. W. Wannamaker & Sons,
St. Matthews, S. C.

Gentlemen:-

Please enter our order for one hundred bushels of your best improved Cleveland cotton seed for October shipment. We wanted some of these seed last year but failed to get in our order in time. We gin from 3,500 to 4,000 bales cotton per season and those farmers whom we sold your seed to two and three years ago are now getting the best returns of any cotton ginned by us. Lint yield is running from 37 to 40 per cent., with average over 38 per cent.

Yours very truly,

WALKER BROS. COMPANY,

Per S. H. Wilson, Sec. & Treas.

Griffin, Ga., Sept. 15th, 1916.

**Letter from Ex-President State Farmers'
Union**

Messrs. W. W. Wannamaker & Sons,
St. Matthews, S. C.

Dear Sirs:-

Everyone that I sold seed to last year was pleased and I am offering seed again this year from seed bought of you last year. My cotton last year was not good as the year before,

but I never saw better turn-out from same size weed.

I consider it the *best cotton* I ever planted, and as long as you keep it up or improve it I will want fresh seed every year.

Please ship me 25 bushels of your best seed to Mayesville and send me the bill.

Yours truly,

E. W. DABBS & SON,

By E. W. D.

Mayesville, S. C., R. 1, Feb. 9, 1916.

Mr. W. W. Wannamaker,
St. Matthews, S. C.

Dear Sir:-

Since ordering 2 bushels of your Pedigreed Cleveland seed, I find I can use 2 more if I can get them at once. I'm a great admirer of big boll cotton, planting around 300 acres a year, with most of it Cleveland. I buy a few seed every year. Would send check, but I'm not sure that you can spare them. If you can't spare them let me know by return mail.

Respectfully,

NOAH F. GIBSON,

Gibson, N. C., March 30, 1916.

**MISSISSIPPI
AGRICULTURAL EXPERIMENT STATION
Agricultural College, Miss.
Director's Office**

Model Seed Farm,

St. Matthews, S. C.

Dear Sir:-

Your letter of recent date to Prof. Lloyd has been referred to me. In reply, I may say that our cotton bulletin for this year will be ready for distribution in a week or two, and we will be pleased to send you a copy. In the meantime, I might say that Wannamaker-Cleveland ranked well in all of our tests the past year.

We regard your cotton as being an excellent variety for the hill region of our State, in fact, we know of none better in the market for growing under boll weevil conditions.

Yours very truly,

H. B. BROWN.

Feb. 23, 1916.

W. W. Wannamaker,

Dear Sir:-

The cotton seed that I got from you this year is just fine. I am well pleased with them, am making over 2,000 pounds to the acre, but I want to get new seed from you again. What will you let me have them at in 60 bushel

lots and 100 bushel lots, delivered the first of November, to Arabi, Ga. Let me hear from you soon.

A. J. C.

Arabi, Ga., Sept. 12, 1916.

Wannamaker & Sons,
St. Matthews, S. C.

Gentlemen:-

Your cotton seed has given me perfect satisfaction. In traveling over the State in the discharge of my duties, I have recommended your seed to hundreds of farmers, as being the most satisfactory short staple cotton to be had, and I hope the orders you are receiving are in keeping with the merit of the cotton, and the valuable breeding work you are doing. If I can be of service to you any time, please command me.

Yours truly,

L. L. BAKER,

District Agent Farm Demonstrator
Bishopville, S. C., Mar. 22nd, 1915.

Model Seed Farm,
St. Matthews, S. C.

Gentlemen:-

Mr. B. M. Drake of our town bought of you some of your Pedigreed Cleveland Big Boll Cotton Seed. I saw the cotton and thought it the purest cotton that I ever saw. I see that you have an ad in the Southern Cultivator offering these seed at \$2.00 per bushel. Enclosed please find check for \$10.00, for which you will ship me five (5) bushels of Cleveland Pedigreed Cotton Seed.

I am going to plant them on good lands that have been making one bale per acre for several years. With your seed I want one and one half bales this year. Please ship at once to

W. F. W.

Turin, Ga., March 16, 1916.

Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

Please send me 10 bushels of your best Cleveland Big Boll Cotton as per inclosed ad. I was not as much impressed with the appearance of your Cleveland Big Boll as with a "heavy fruiter" cotton planted by a neighbor, but when I ginned 8 bales from 8 acres that were so heavy that they equalled 10 bales, and on a weed that did not meet in four-foot rows, nor grow four feet high, I was convinced that it is a good cotton, if not the *best* grown, and I have not time to try several varieties. I kept my seed separate at the gin, but made no effort to select or improve, so want fresh

seed from you of your best. Be sure they are all sound.

There was not a sign of anthracnose in my cotton, although part was behind a long staple cotton that was ruined the year before with anthracnose.

Ship to me at Sumter, via Southern Ry., as that will be the most direct and cheapest freight rate.

Yours truly,

E. W. DABBS,

Ex-Pres. State Farmers' Union.

Mayesville, S. C., Mar. 15th, 1915.

Messrs. W. W. Wannamaker & Sons,
St. Matthews, S. C.

Gentlemen:-

I enclose check for \$10.00 for which please ship to me by next express five bushels Wannamaker's Pedigreed Cleveland Big Boll Cotton Seed.

I bought three bushels of these seed from you last year and planted nine acres of common wire-grass land with them. I used 300 pounds of a 9-2-3 Guano per acre and gathered nine bales of cotton from same. The bales weighed from 525 pounds up to 575 pounds each.

Right next to it I had Toole and another strain of Cleveland and only got two-thirds of a bale per acre from each of the other kinds planted.

I intend planting these seed right on the State highway and to give them a *showing*, so please send me as good as you have, and oblige,

Yours very truly,

W. C. JORDAN.

Ship via Sou. Express to

W. C. J., Sale City, Ga., Mitchell County.
Hartsfield, Ga., Mar. 13, 1916.

UNITED STATES DEPARTMENT OF AGRICULTURE

in Co-operation with

LOUISIANA STATE UNIVERSITY

Baton Rouge, La.

Live-Stock Extension Service.

March 15, 1916.

Model Seed Farm,

St. Matthews, S. C.

Dear Mr. Wannamaker:-

I am going to conduct a small variety test of short staple cotton this year and would not feel that we had tried the best varieties without Wannamaker's Cleveland. Will you please ship to Mr. M. L. Wilson, Demonstration Agent, Shreveport, La., one peck of your best seed?

You remember I bought a good many seed from you in 1914 at Clarksdale, Miss., and

made a remarkable crop, having produced a bale and a half on nearly every acre I had in. The yield attracted a great deal of attention, and I sold a good many seed in that section, although that is a long staple country. I got more money than the long staple people, in spite of the premium received for the latter. I have recommended it to a great many Louisianians and think you may get some orders from this State if you have not already received them.

Trusting that you will be able to furnish these seed, I am, with best wishes and personal regards,

Very truly yours,
W. R. PERKINS,
Forage Crop Agent.

Model Seed Farm,
St. Matthews, S. C.

Please send me your price list and catalog at once, as I want some of your good seed corn. I sure liked your cotton seed I ordered last season. Send at once.

Yours,
W. F. RISER.

Bowman, S. C., Mar. 24, 1916.

Model Seed Farm,
W. W. Wannamaker & Sons,
St. Matthews, S. C.

Dear Sirs:-

Enclosed check for \$6.00, please ship me two bushels of your Marlboro Two-Ear Seed Corn. Ship to W. W. Nelson, care of Fred Peterson, 908 Ellis St., Augusta, Ga. Ship by freight.

I used your corn last year, like it better than any Marlboro I ever planted.

Very truly yours,
W. D. N.

Hephzibah, Ga., Feb. 16th, 1915.

The Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

We have always been very much pleased with your cottons and always call attention to them and their value when visitors are shown around. We have found them to be very uniform and true to type, which indicates the good work you are doing and we wish to congratulate you on your products.

Your corn has also done well, standing 2nd in our test of 36 varieties, with a yield of 42 bushels per acre.

We have not finished with the cotton variety test results, but when we have all the

percentages and prices figured, we will report to you again, if you will remind us.

Very truly yours,
PEDIGREED SEED CO.,
By S. Pressly Coker.
Hartsville, S. C., Jan. 17, 1916.

W. W. Wannamaker & Sons,
Gentlemen:-

Please send us your catalogue of your improved corn and cotton seed. We bought your seed two years ago, and was so well pleased until we want to order again.

Address
W. S. L.,
Meeting Street, S. C., R. F. D. 1.
Edgefield County.

February 11, 1916.

UNITED STATES DEPARTMENT OF
AGRICULTURE
BUREAU OF PLANT INDUSTRY
Corn Investigations.

Washington, D. C., No. 27, 1915.
Wannamaker & Sons,
St. Matthews, S. C.

Dear Sirs:-

We wish to test your variety again this year and would like to get one bushel of seed on the ear. Please quote us price on one bushel carefully packed so as to prevent shelling.

Your variety was compared with twelve others in Georgia this year and ranked second in yield. It was beaten only an insignificant amount by the Garrick corn. The quality of your corn was better than that of the Garrick.

Very truly yours,
C. H. KYLE, Physiologist.

North Carolina Experiment Station
WEST RALEIGH

January 27, 1916.

Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

Please accept my thanks for the reduction in price given to the community cotton growers.

Your Cleveland was tested with Cleveland from six other sources and we find it the most uniform variety of the group.

With best wishes, I am,

Very truly yours,
R. Y. WINTERS,
Plant Breeding Agronomist.

Dear Sirs:-

I had great success with both your cotton and corn last year. Your Wannamaker Cleveland is the best *Big Boll Cotton* on earth to

fight the boll weevil with. Under the worst kind of weevil and excessive rain condition it made 3-4 bale to the acre. The Spring drought caught your Marlboro corn, but I am delighted with the fine promise it showed over the old Marlboro. I hope to give you a good report this Fall on both cotton and corn. Please mail me at once several of your catalogues, I have some neighbors I want to order from you.

Respectfully,

W. BAKER SILVEY,
Collinston, La., Jan. 29, 1915.

Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

Please ship me (200) two hundred bushels Wannamaker's Pedigreed Big Boll Cotton Seed.

Your cotton is being planted in this section very extensively. We have the boll weevil and would like for you to ship us as good as you can. Check for \$400.00 enclosed.

This order is for a number of people.

Respectfully,

S. F. OWEN.
Pinehurst, Ga., Oct. 26th, 1916.

GEORGIA EXPERIMENT STATION
Office of the Director
Experiment, Ga.

January 9, 1915.

Mr. W. W. Wannamaker,
St. Matthews, S. C.

Dear Sir:-

Your letter of the 7th inst., to Mr. J. M. Kimbrough, who severed his connection with this station last July, received.

Your letter is very interesting and we are glad to know that there are people like you who have a vital interest in the permanent improvement of agricultural crops.

Yours very truly,
R. J. H. DeLOACH, Director.

Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

Please find check enclosed for \$5.00 for which send me four bushels of your Cleveland cotton seed and one dollar's worth of your Improved Marlboro Prolific Seed Corn.

If the corn is as good as the cotton seed we had from you last year, I know it is all right for I was well pleased with it. In fact, I believe it is the best cotton to be had. Let me tell one thing I noticed about it. We had some seed bred up purposely to resist anthracnose (Sunbeam variety) and it actually had more of the disease than your cotton did

and it was all grown under exactly the same conditions. It is certainly a good cotton.

Hoping to hear from you in a few days, I am,

Very truly,

V. A. L.,

R. F. D. No. 1.

Cochran, Ga., March 25, 1915.

W. W. Wannamaker & Sons,
St. Matthews, S. C.

Gentlemen:-

I am enclosing my check for \$5.00 and I want you to ship me some of your Pedigreed Cleveland Big Boll Cotton Seed. I believe this to be the best cotton of today, and I notice by the papers that you have about sold out. But you must spare me \$5.00 worth of seed from your own planting pile. Do you grade your cotton seed? Please ship me the seed at once and oblige,

JOHN F. W.

Ulmers, S. C., March 29, 1916.

North Carolina Experiment Station
WEST RALEIGH

April 1, 1916.

Model Seed Farm,
St. Matthews, S. C.

Dear Sirs:-

Will you please ship us by express one bushel of your Pedigreed Cleveland cotton seed and send the bill to the N. C. Department of Agriculture, Division of Agronomy? You have no doubt received the 1915 report on cotton varieties.

Your card regarding the reporting of varieties on a money value basis was received some time ago. This method of reporting would no doubt be worth while, but is rather difficult on account of the difference in grades and length of staple furnished by different varieties. We consider your variety of Cleveland the best strain of Cleveland which has been a part of our test during the last three years and are recommending it to growers in the Eastern part of the State.

Very truly yours,

R. Y. WINTERS,
Agronomist in Plant Breeding.

W. W. Wannamaker & Sons,
St. Matthews, S. C.

Dear Sirs:-

Yours of the 11th inst. received. We're sending check attached for the five bushels of Wannamaker's Pedigreed Big Boll seed.

We feel that a little consideration of this kind on your part will be time profitably spent, as your seed, corn and cotton, have received

quite a little advertisement. They are *the seed*.

Thanking you for all favors shown us, we remain,

Yours very truly,

R. E. & V. A. L.

Cochran, Ga., May 13, 1916.

Your esteemed favor of recent date, asking for the standing of your Wannamaker Pedigree-Cleveland Big Boll cotton received, and I beg to say that it stands at the head of the list.

JAMES M. KIMBROUGH.

Ga. Exp. Sta., Dec. 22, 1913.

The cotton seed, Wannamaker's Cleveland Big Boll, bought of you a year or two since, has proven very satisfactory. I believe very strongly in seed selection. Your plan of selecting seed is a good one. I believe the Cleveland Big Boll, if properly selected from year to year, will be made—if it is not already—the best variety of cotton grown in this section of the country. I believe greatly in the best variety of seeds of all kinds. Please ship me via Augusta 50 bushels of your best and latest improved seed.

JAMES M. SMITH.

Smithonia, Ga., Oct. 5, 21 and Nov. 6, 1913.

I have purchased cotton seed from you for the last two seasons and they have proved satisfactory in every respect, especially the Pedigree-Cleveland Big Boll that I bought from you last season. I had about become disgusted with big boll cottons, as they had not done well with me, but I am glad to say your Cleveland came up to my expectations in every respect. On two acres I made three bales of cotton, although I did not get a stand until June, but it opened early and outyielded any other cotton I had by 20 per cent. Please ship me three bushels of your best selection. I want these for my seed patch.

R. Y. T.

Winnsboro, S. C., Nov. 4, 1913.

The Wannamaker-Cleveland cotton is the best cotton I have ever planted, and I have tested fifteen varieties for two years. It will produce more seed cotton per acre by two to five hundred pounds than other cottons, and will yield 38 per cent. of lint. I tested the Wannamaker-Cleveland with the pure Cleveland cotton this year, and find the difference in them all that they claim for them. Hands will pick far more in it than in small-balled cotton.

B. D. F.

Orangeburg, S. C., Dec. 7, 1913.

The Cleveland Big Boll cotton seed purchased of you has given entire satisfaction. The bolls are numerous and large, the cotton easy to pick and leads in the per cent. of lint. I consider it the best short staple cotton that I can plant on my lands. I have recommended your Cleveland Big Boll cotton in practically every county in my district, and I find wherever the parties secured seed from you, and a fair test has been made, that this cotton is making greater yields than any other varieties and the farmers are anxious to secure the seed.

L. L. B.,
District Agent.

Bishopville, S. C., 1912 and 1913.

We like the seed we bought from you all right. The seed seemed to be the nearest just one thing we ever saw, and the plants are just like peas in a pod.

FAIR VIEW FARM.

December 2, 1913.

Your letter of the 7th inst. received. Wannamaker's Cleveland Big Boll cotton made the best yield of all the varieties in our test, 1,412 pounds seed cotton per acre and 480 pounds lint. You have a splendid cotton. One of our plantations was planted in it this year and made almost a bale of cotton per acre. The size of plats in our test was eighth of an acre.

Your Pedigree-Cleveland is showing up well at the Delta Experiment Station this year, 1913, both as to yield and earliness.

W. R. PERKINS,
Supt. Delta Farms Co.

Deeson, Miss., 1912-1913.

We made up an order for 100 bushels of your Pedigree-Cleveland Big Boll cotton seed last Spring. Everybody that got any of it was well pleased. One farmer, Mr. John M. Nixsen, made twenty good bales on ten acres. He is a large farmer, with good practical judgment, and he pronounced it the best cotton he has ever planted. Will you kindly send your catalogue to Mr. Geo. McElveen, this place.

T. O. E.,
Demonstration Agent.

Kingstree, S. C., Dec. 22, 1913.

Your Pedigree-Cleveland cotton is just the best cotton that has ever been planted in this section. I made this year with your Pedigree-Cleveland 680 pounds lint cotton per acre, with only 700 pounds fertilizer. I have planted most of the leading varieties of cotton, and find yours by odds the best I have ever planted. I do not believe there is a higher bred cotton

cotton. Two of its greatest features is its in the belt today; it is almost perfection in high per cent. of lint and ease of gathering, and I find it stands in the field remarkably well. Any one wanting an ideal "All Round" cotton should not hesitate in buying yours and I would consider them cheap at \$5.00 per bushel if they could not be had cheaper. I shall get some more seed from you this season.

D. L. G.

Lynchburg, S. C., Dec. 4, 1913.

I planted the Wannamaker Pedigree-Cleveland Big Boll cotton this Spring. The hail destroyed the stand to about one-half, but I made a bale per acre. I think the Cleveland will supersede all other varieties in this section of Georgia.

T. M. M.

Griffin, Ga., Dec. 4, 1913.

I wish to state that the Two-Ear Marlboro corn bought of you this season gave good results and was highly satisfactory.

C. C. E.

Chester, S. C., Dec. 6, 1913.

I planted your Marlboro Two-Ear corn this year and am well pleased with it. Expect to plant it another year.

L. M. W.

Camden, S. C., Dec. 6, 1913.

Your Cleveland Cotton did extra well. It is the best cotton I have ever seen for such an unusually wet season. The stalks are uniform, the fruit is close and the fibre good. Made 40 per cent. lint.

J. H. M. W.

West Union, S. C., Jan. 19, 1913.

I bought corn of you last year. It was fine. I am giving the best encouragement for all of your seed I can, because I believe you will treat your customers honestly and give them the right seed.

Please ship me two bushels of your especially selected Cleveland Big Boll cotton, and two bushels of your Marlboro Seed corn shelled.

Check for \$11 enclosed.

S. F. O.

Pinehurst, Ga., March 8, 1912.

I was pleased with seed bought from you last Spring. The five bushels of Two-Eared Marlboro corn was planted by Mr. J. C. Gary and myself, and we were well pleased with

same. Think it is as near a Two-Eared Corn as we could get.

W. P. S.

Kinards, S. C., Dec. 9, 1913.

Your Marlboro Two-Eared Seed Corn proved very satisfactory with us. We had a fine average yield from our entire crop, and on one acre that we gave some extra attention, we gathered 93 1-2 bushels. Taking everything into consideration, we consider that you have a very desirable variety.

WARE SHOALS MFG. CO.

December 8, 1913.

Please send us a catalogue of and the kind of cotton seed you shipped us in the Spring of this year. This cotton is something fierce. We want to know more about it. We have a trial patch and stalks carrying 300 to 400 bolls.

M. S. B.

Clinton, S. C., Sept. 9, 1913.

(Note:—These seed were Pedigree-Cleveland Big Boll.)

I am well pleased with the Pedigree-Cleveland Big Boll cotton seed bought of you last Spring. I believe it is the best big boll cotton I have ever seen, and it makes more lint than any big boll cotton I have ever planted. Made an average of 37 per cent., and I didn't get it up until the 1st of June on account of dry weather. Will want some more seed this winter.

W. R. C.

Lanes, S. C., Dec. 15, 1913.

The Pedigree-Cleveland Big Boll cotton seed I bought of you was so fruitful that I made one and one-half bales per acre, and all the farmers want the seed another year. We plant three or four varieties, but we shall adopt your "Wannamaker" next year. Wishing you much success.

G. I. T.

Ailey, Ga., Dec. 9, 1913.

I ordered enough of your Improved Pedigree-Cleveland Big Boll cotton seed last year to plant half of my crop, and thought they were rather high, but I see now what I lost by not buying enough to plant my whole crop. It is all you claim for it, and more. Some of it made 40 pounds of lint to the 100.

J. T. C.

Moore, S. C., Dec. 4, 1913.

I have your favor of recent date with reference to showing made by your Pedigree-Cleveland Big Boll cotton. We have not yet worked out our data with reference to money value, but your cotton took second place in number of pounds of lint cotton per acre, giving us a yield without fertilizer of 835 pounds lint per acre.

G. B. WALKER.

Miss. Delta Exp. Sta., Jan. 2, 1914.

The Wannamaker's Improved Pedigree-Cleveland Big Boll cotton seed I bought from

you last year made me five bales on four and one-half acres of ordinary land, which for years had not been making but one-half bale per acre. The extraordinary prolificacy of this cotton has been the talk of all the farmers of this section of the county, and has shown that honesty in pedigreed seed pays even at a high first cost for classy seed. The merits of your seed show that you are near the 100 per cent. mark. One notable feature is that your cotton has no surplus weed and more fruit and less weed than the regular type of Cleveland.

H E. F.

Seneca, S. C., Jan. 10, 1914.

C o m m e n t s

All seeds are shipped in new strong sacks, branded and tagged so they will reach their destination quickly, safely, and without waste.

Place your orders at once as our supply is limited, and as "first come, first served" is our rule. Remember, also, that freight transportation is very slow and often subject to delay during the Spring fertilizer season; and if you get your seed too late for planting, do not blame us for your own unnecessary delay.

If you have any just complaint to make about the looks before planting, or the results after planting, of our seeds, kindly write us at once your reasons for same, so that we may explain and come to a mutual understanding about the matter.

Above all things, weigh and consider first, before blaming our seed, perchance you fail to make a good crop on account of adverse seasons or through any fault of your own, both of which it is very human to overlook and place the blame on the seed bought, forgetting that it is impossible for any seed without good seasons to get a fair showing.

In conclusion, we beg to say that we are in the seed business to stay, and will indefinitely improve (unless by our experiments we find something better) our seed, giving you the advantage of whatever useful qualities we may develop in them in the future; and that in this work our minds are not entirely set on the mere making of money, but that we may be of some service in bringing about "the wave of agricultural prosperity that is now sweeping over our Southland."

Wishing you a New Year of Health, Happiness and Prosperity, we beg to remain,

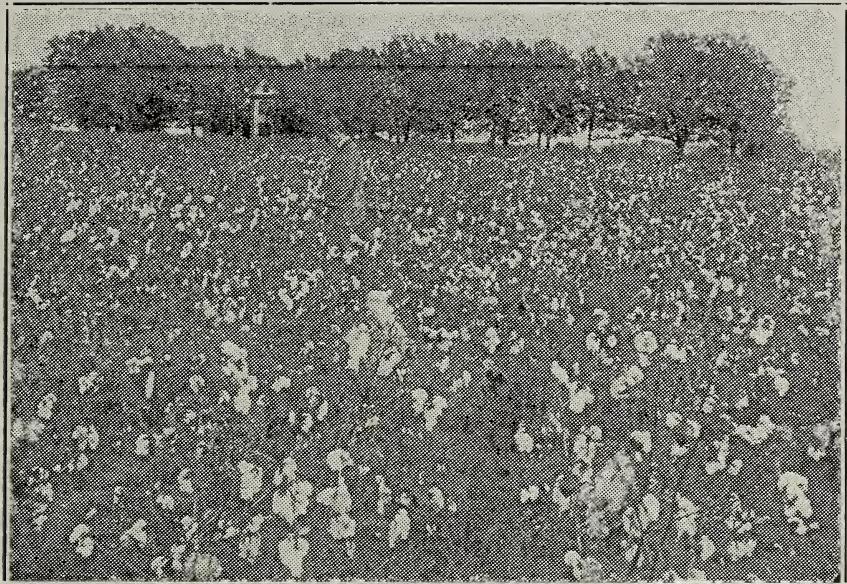
Yours very truly,

W. W. WANNAMAKER & SONS.

MODEL SEED FARM

ST. MATTHEWS - SOUTH CAROLINA

By W. W. W., Jr., Plant Breeder



Breeding Patch Cotton on Model Seed Farm

TERMS AND DIRECTIONS: Cash must accompany every order for seed, either by registered letter, post office money order, draft or check. Write name and full address plainly, and state how you want seed shipped—by freight or express.

Seed will be shipped at once, but will hold a reasonable time if purchaser so requests.

Seed will be booked in the Fall, with 25 per cent. of order in advance, but must be shipped the beginning of the new year, cash to accompany shipping directions.

REFERENCES: St. Matthews National Bank, Banks & Wimberly Company, or any citizen or bank in Calhoun County, in which county we are situated; the Agricultural Officials of the North Carolina Experiment Station, Raleigh, N. C.; South Carolina Experiment Station, Clemson College, S. C.; Georgia Experiment Station, Experiment, Ga.; Alabama Experiment Station, Auburn, Ala.; and Mississippi Experiment Station, Agricultural College, Miss., where we have sent our seeds to be tested, so their merits or demerits might be brought before the farmers of the South in impartial competitive tests; J. N. Harper, Clemson College, S. C.; E. J. Watson, Commissioner of Agriculture, Columbia, S. C., etc.



Seed-Breeding is Our Specialty



One Hundred-Ear-to-Row Test and Breeding Patch Wannamaker Two-Ear Seed Corn,
100 Rows, $2\frac{1}{2}$ Acres—Testing and Weighing



Honesty, Method and Care in Selection
IS OUR POLICY